



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,834	10/17/2000	Toshio Koga	Q60831	1858
7590	07/20/2006			
SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037				EXAMINER
				MEINECKE DIAZ, SUSANNA M
			ART UNIT	PAPER NUMBER
			3623	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/688,834	KOGA, TOSHIRO	
	Examiner	Art Unit	
	Susanna M. Diaz	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 July 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant RCE filed on July 7, 2006 and Applicant's submission (the after-final amendment) filed on May 25, 2006 has been entered.

Claim 1 has been amended.

Claims 1-7 are presented for examination.

Response to Arguments

2. Applicant's arguments filed May 25, 2006 have been fully considered but they are not persuasive.

Applicant argues that Fuyama '376 does not teach or suggest a vehicle speed detecting means which constitutes a vehicle-onboard electronic toll collection apparatus (page 6 of Applicant's response). In response to applicant's arguments, the recitation "a vehicle-onboard electronic toll collection apparatus" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the

Art Unit: 3623

preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Consequently, the prior art only needs to teach a “vehicle speed detecting means...” regardless of the location of the vehicle speed detecting means, which Fuyama ‘376 addresses (as set forth in the art rejection). Although claim 1 has been amended to copy the wording of the preamble into the body of the claim, it is not clear how this limitation affects the structure of limitations (a) through (d), which will be discussed more thoroughly in the rejection under § 112, 2nd paragraph below.

Applicant also submits that the “measuring means...” and “decision means...” are not part of “a vehicle-on board electronic toll collection apparatus” (pages 6-7 of Applicant’s response). Similarly, in response to applicant’s arguments, the recitation “a vehicle-on board electronic toll collection apparatus” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Consequently, the prior art only needs to teach a “measuring means...” and “decision means...” regardless of the location of each respective means, both of which Fuyama ‘376 addresses (as set forth in the art rejection). Again, although claim 1 has been amended

Art Unit: 3623

to copy the wording of the preamble into the body of the claim, it is not clear how this limitation affects the structure of limitations (a) through (d), which will be discussed more thoroughly in the rejection under § 112, 2nd paragraph below.

Additionally, Applicant argues that "there is no disclosure or suggestion of converting the distance data to time data based on an area entering speed" (page 7 of Applicant's response). Any velocity determination (as taught by Fuyama) is based on a distance travelled in relation to a given time period. Furthermore, Fuyama uses the velocity measurement to determine a sufficient time interval for establishing a communication link (col. 5, lines 1-54). This time interval is ultimately derived from a distance measurement. "Generally, the predetermined interval is twice or three times the time interval for establishing the communication link, for example 500 ms, which corresponds (slightly longer) to the interval (482 ms) necessary for travelling p1 to p2 at 30 Km/h. The predetermined interval is longer than the interval that the vehicle travels from the p1 to p2 at a relatively high speed, so that if the speed of the vehicle 35 is high (more than 30 Km/h), the communication link is judged in response to the second sensor s2." (col. 5, lines 41-50).

In conclusion, Applicant's arguments are not persuasive.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended to incorporate the preamble of the claim into the body. In other words, the body of claim 1 has been amended to incorporate the limitation, "wherein said vehicle-onboard electronic toll collection apparatus comprises elements (a) - (d)." This limitation is redundant in light of the preamble and does not further limit the claim nor is it clear how it affects the structural elements recited in elements (a) - (d). For example, a system located on a vehicle may broadly comprise elements that are not necessarily all located on the vehicle. An apparatus may comprise components that are located in different places, such as various means to send/receive communications at different locations. Claim 1 does not clearly specify whether or not the recited vehicle speed detecting means, communication means, measuring means, and decision means are physically contained on or within the vehicle-onboard electronic toll collection apparatus. Furthermore, the term "vehicle-onboard" is a mere label for the electronic toll collection apparatus and does not expressly convey that the apparatus and all contained elements are physically attached to a particular vehicle. If Applicant desires an interpretation of the apparatus and all recited means as being physically attached on or within a vehicle, then the claim should be amended to expressly indicate the location of each separate means.

Claims 2-7 are dependent from claim 1 and therefore inherit the same rejection.

Appropriate correction and/or clarification is required.

ART REJECTION #1***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Fuyama (U.S. Patent No. 6,259,376).

Fuyama discloses a vehicle-onboard electronic toll collection apparatus, comprising:

[Claim 1] (a) vehicle speed detection means for detecting a speed of a motor vehicle which passes through a toll gate station equipped with an electronic toll collection system (Fig. 2; abstract; col. 4, line 25 through 5, line 54);
(b) communication means for exchanging electronic toll collection information for settlement of toll charge/payment transaction with said toll gate station upon passing through said toll gate station (col. 5, line 55 through col. 6., line 7);
(c) measuring means for measuring reception field intensity of the received electronic toll collection information within a communication coverage area (Fig. 2; abstract; col. 4, line 25 through 5, line 54); and

(d) decision means for making decision on the basis of said detected vehicle speed and said measured reception field intensity as to a location within said communication coverage area where electronic toll collection information communication can be started while sustaining favorable reception field intensity at said detected vehicle speed, to thereby allow said communication means to perform communication processing on the basis of result of said decision (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

wherein said vehicle-onboard electronic toll collection apparatus comprises (a) -

(d) (Fuyama discloses means (a) - (d), as discussed above);

[Claim 2] wherein said detection means is so designed as to sample distance data which ensure more favorable reception field intensity than the reception field intensity at an entrance location of said communication coverage area on the basis of speed at which said motor vehicle enters said communication coverage area, to thereby generate distance-versus-reception field intensity data (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 3] wherein said decision means is so designed as to determine said distance data which can ensure favorable reception field intensity through statistical processing on the basis of speed which said motor vehicle enters said communication coverage area (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 4] wherein said detection means is so designed as to convert the distance data to time data based on area entering speed (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 5] wherein said decision means is so designed as to convert the distance data to time data based on area entering speed (Fig. 2; abstract; col. 4, line 25 through 5, line 54).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuyama (U.S. Patent No. 6,259,376), as applied to claim 1 above, in view of Fuyama '267 (U.S. Patent No. 6,834,267).

Fuyama does not expressly teach the inclusion of image display means for displaying the electronic toll collection information exchanged through said communication means as an image while stopping display of the electronic toll collection information in dependence on a vehicle speed signal outputted from said vehicle speed detection means (claim 6) or voice output means for generating a synthesized voice message signal for prompting change of speed of the motor vehicle in dependence on a vehicle speed signal outputted from said vehicle speed detecting means, for thereby outputting said message in voice (claim 7). However, Fuyama '267 discloses a toll system in which a driver is prevented from entering toll information if the driver's speed is above an acceptable threshold (e.g., if the vehicle is not immobile). If

the vehicle is not immobile, "CPU 11 displays a message to the effect that a key operation is prohibited during running of vehicle and also provides a voice message to the same effect in step 153...In this way, the user is prohibited from operating the keyboard portion 16, this ensures the safety of vehicle driving." (Col. 5, lines 3-9) In other words, the display outputs a warning instead of enabling the toll data input based on the driver's speed. Additionally, speed warnings may be provided using a voice message. Both Fuyama and Fuyama '267 are directed toward toll systems that measure vehicle speed; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Fuyama to include image display means for displaying the electronic toll collection information exchanged through said communication means as an image while stopping display of the electronic toll collection information in dependence on a vehicle speed signal outputted from said vehicle speed detection means (claim 6) or voice output means for generating a synthesized voice message signal for prompting change of speed of the motor vehicle in dependence on a vehicle speed signal outputted from said vehicle speed detecting means, for thereby outputting said message in voice (claim 7) in order to help ensure the safety of vehicle driving, as suggested in col. 5, lines 3-9 of Fuyama '267.

ART REJECTION #2

Assuming, for the sake of argument, that Applicant's intended scope of the vehicle-onboard electronic toll collection apparatus comprising elements (a) through (d)

means that each of recited elements (a) through (d) is physically located on or within a vehicle, the following art rejection would address such an interpretation of claims 1-7.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuyama (U.S. Patent No. 6,259,376).

Fuyama discloses a vehicle-onboard electronic toll collection apparatus, comprising:

[Claim 1] (a) vehicle speed detection means for detecting a speed of a motor vehicle which passes through a toll gate station equipped with an electronic toll collection system (Fig. 2; abstract; col. 4, line 25 through 5, line 54);
(b) communication means for exchanging electronic toll collection information for settlement of toll charge/payment transaction with said toll gate station upon passing through said toll gate station (col. 5, line 55 through col. 6., line 7);
(c) measuring means for measuring reception field intensity of the received electronic toll collection information within a communication coverage area (Fig. 2; abstract; col. 4, line 25 through 5, line 54); and

(d) decision means for making decision on the basis of said detected vehicle speed and said measured reception field intensity as to a location within said communication coverage area where electronic toll collection information communication can be started while sustaining favorable reception field intensity at said detected vehicle speed, to thereby allow said communication means to perform communication processing on the basis of result of said decision (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 2] wherein said detection means is so designed as to sample distance data which ensure more favorable reception field intensity than the reception field intensity at an entrance location of said communication coverage area on the basis of speed at which said motor vehicle enters said communication coverage area, to thereby generate distance-versus-reception field intensity data (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 3] wherein said decision means is so designed as to determine said distance data which can ensure favorable reception field intensity through statistical processing on the basis of speed which said motor vehicle enters said communication coverage area (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 4] wherein said detection means is so designed as to convert the distance data to time data based on area entering speed (Fig. 2; abstract; col. 4, line 25 through 5, line 54);

[Claim 5] wherein said decision means is so designed as to convert the distance data to time data based on area entering speed (Fig. 2; abstract; col. 4, line 25 through 5, line 54).

As per claim 1, while Fuyama's vehicle speed detection means and communication means have components located on or within the vehicle (Fig. 2; abstract; col. 4, line 25 through 5, line 54), Fuyama's measuring means and decision means are located externally to the vehicle at the toll station (Figs. 1, 2, 4, 6, 8). In other words, Fuyama does not expressly teach that the measuring means and decision means are physically located on or within the vehicle. However, the location of these means does not affect the recited structure or functionality. Additionally, a shift in the location of recited parts is deemed to be obvious in light of prior art teachings addressing the structure and functionality of the recited parts, as supported by *In re Japikse*, 86 USPQ 70, 73; 182 F2d 207 (CCPA 1950). Therefore, even if elements (a) through (d) of claim 1 were all recited as physically being located on or within a vehicle, the Examiner submits that the claimed invention is still obvious in light of Fuyama since Fuyama teaches the recited structure and functionality corresponding to these elements, as discussed above.

11. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuyama (U.S. Patent No. 6,259,376), as applied to claim 1 above, in view of Fuyama '267 (U.S. Patent No. 6,834,267).

Regarding claims 6 and 7, Fuyama does not expressly teach the inclusion of image display means for displaying the electronic toll collection information exchanged through said communication means as an image while stopping display of the electronic toll collection information in dependence on a vehicle speed signal outputted from said vehicle speed detection means (claim 6) or voice output means for generating a synthesized voice message signal for prompting change of speed of the motor vehicle in dependence on a vehicle speed signal outputted from said vehicle speed detecting means, for thereby outputting said message in voice (claim 7). However, Fuyama '267 discloses a toll system in which a driver is prevented from entering toll information if the driver's speed is above an acceptable threshold (e.g., if the vehicle is not immobile). If the vehicle is not immobile, "CPU 11 displays a message to the effect that a key operation is prohibited during running of vehicle and also provides a voice message to the same effect in step 153...In this way, the user is prohibited from operating the keyboard portion 16, this ensures the safety of vehicle driving." (Col. 5, lines 3-9) In other words, the display outputs a warning instead of enabling the toll data input based on the driver's speed. Additionally, speed warnings may be provided using a voice message. Both Fuyama and Fuyama '267 are directed toward toll systems that measure vehicle speed; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Fuyama to include image display means for displaying the electronic toll collection information exchanged through said communication means as an image while stopping display of the electronic toll collection information in dependence on a vehicle speed

signal outputted from said vehicle speed detection means (claim 6) or voice output means for generating a synthesized voice message signal for prompting change of speed of the motor vehicle in dependence on a vehicle speed signal outputted from said vehicle speed detecting means, for thereby outputting said message in voice (claim 7) in order to help ensure the safety of vehicle driving, as suggested in col. 5, lines 3-9 of Fuyama '267.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 10 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Susanna M. Diaz
Primary Examiner
Art Unit 3623

July 14, 2006